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BUBBLE TROUBLE

Play with bubble solution!

Iejaah Richardson

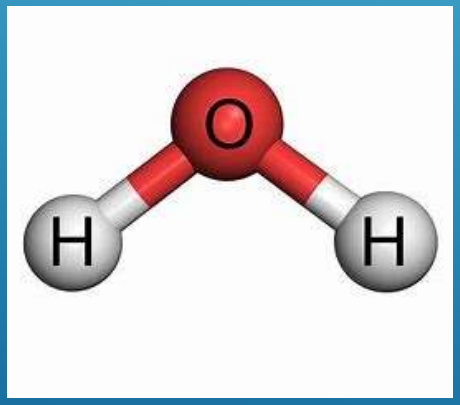
OBJECTIVE

- Blowing Bubbles! This experiment tests whether Glycerin or Corn Syrup is more effective at making the bubble last longer and increase the size of the bubbles when added to bubble solution.

INTRODUCTION

Ever wondered the key to blowing the perfect bubble?

- Turns out, when water molecules orient themselves in a way that they are aligned, they stick to each other, which creates Surface Tension. This is due to a property of water: Polarity. An end of the molecule is negative (oxygen) and the hydrogen ends are positive.



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BUT… the surface tension of water alone is too strong! Detergent is an essential ingredient to an ideal bubble solution. Detergent only relaxes the strong surface tension of water, so it has more elasticity, stretches thinner and is able to trap air.

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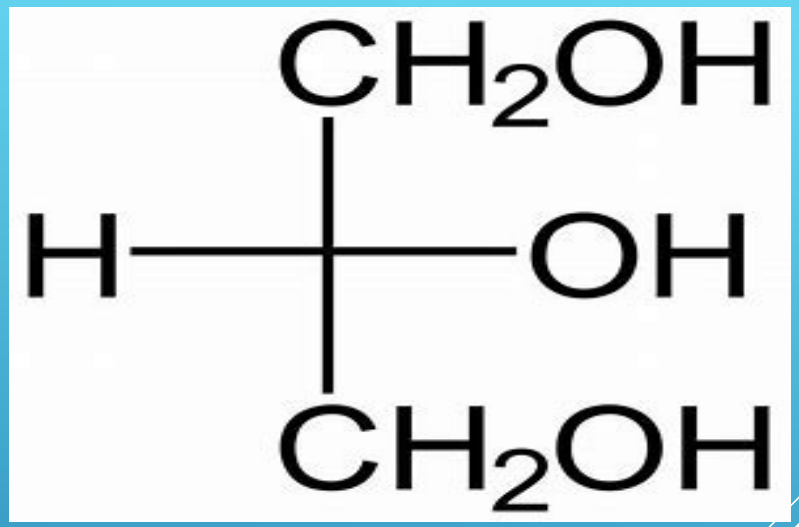
EXPERIMENT

- **Now that you know the basics…**

Glycerin or Corn Syrup will be added to bubble solution (water + detergent) to see if they can create better bubbles.

- Which solution will make the biggest bubbles?
- Which bubbles will last the longest?



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MATERIALS

- Measuring cups and spoons
- Distilled Water
- Detergent
- Glycerin
- Light corn syrup
- Pipe cleaners
- Permanent marker
- Stopwatch
- Clear mason jars (with lids) to hold bubble solution

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STEPS

Ingredient	**Solution 1** (Detergent)	**Solution 2** (Detergent + Glycerin)	**Solution 3** (Detergent + Corn Syrup)
Water	1 cup (240 mL)+ 1 tbsp (15 mL)	1 cup (240 mL)	1 cup (240 mL)
Detergent*	2 tbsp (30 mL)	2 tbsp (30 mL)	2 tbsp (30 mL)
Corn Syrup	-----	-----	1 tbsp (15 mL)
Glycerin	-----	1 tbsp (15 mL)	-----

1. Make bubble solutions in mass, according to table. Store in Mason jars. Use one solution per jar and label. Keep total volumes consistent. *In table dishwashing liquid referred to as detergent.
2. Make pipe cleaner wand for each solution. Pinch middle of pipe cleaner and give it a kink. One half of the pipe cleaner must be bent into a circle and twisted together in the middle. Repeat for more pipe cleaners. **Key :** Make sure all circles are all the same diameter.
3. Start the stopwatch as soon as possible after blowing to measure how long bubbles last. Let students build own wands from pipe cleaners to test all three solutions.

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